

SD03C thru SD48C

BIDIRECTIONAL TVS DIODE ARRAY FOR LATCH-UP PROTECTION

APPLICATIONS

- ◆ RS-232, RS-422 & RS-423 Data Lines
- ◆ Audio/Video Inputs
- ◆ Wireless Network Systems
- ◆ Microprocessor Based Equipment
- ◆ Medical Sensors
- ◆ Notebook Computers

IEC COMPATIBILITY

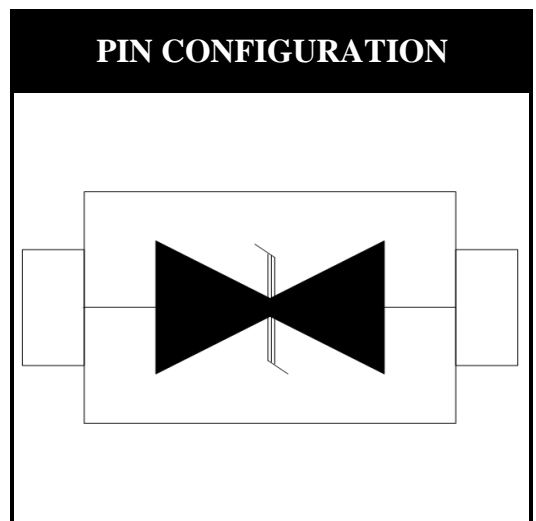
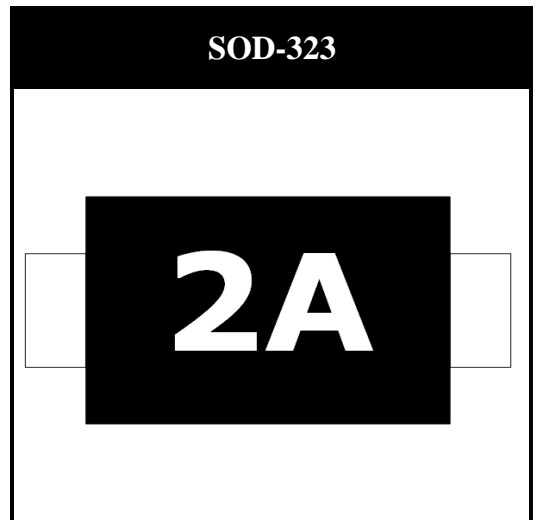
- ◆ IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact) -- 3.3V~18V
- ◆ IEC61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact) -- 24V~36V
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC61000-4-5 (Lighting) 2~25A (8/20 μs)

FEATURES

- ◆ 170~400 Watts Peak Pulse Power per Line ($t_p=8/20\mu\text{s}$)
- ◆ Protects two bi-directional I/O lines
- ◆ Low clamping voltage
- ◆ Working voltages : 3.3V to 48V
- ◆ Low leakage current

MECHANICAL CHARACTERISTICS

- ◆ SOD-323 Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Weight 5.0 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch
- ◆ Lead Finish : Lead Free



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DEVICE CHARACTERISTICS

MAXIMUM RATINGS (@ 25°C Unless Otherwise Specified)

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp=8/20µs waveform) -- SD03C	P _{PP}	400	Watts
Peak Pulse Power (tp=8/20µs waveform) -- SD05C	P _{PP}	408	Watts
Peak Pulse Power (tp=8/20µs waveform) -- SD08C	P _{PP}	360	Watts
Peak Pulse Power (tp=8/20µs waveform) -- SD12C	P _{PP}	330	Watts
Peak Pulse Power (tp=8/20µs waveform) -- SD15C	P _{PP}	324	Watts
Peak Pulse Power (tp=8/20µs waveform) -- SD18C	P _{PP}	320	Watts
Peak Pulse Power (tp=8/20µs waveform) -- SD24C	P _{PP}	250	Watts
Peak Pulse Power (tp=8/20µs waveform) -- SD30C	P _{PP}	252	Watts
Peak Pulse Power (tp=8/20µs waveform) -- SD33C	P _{PP}	240	Watts
Peak Pulse Power (tp=8/20µs waveform) -- SD36C	P _{PP}	225	Watts
Peak Pulse Power (tp=8/20µs waveform) -- SD48C	P _{PP}	170	Watts
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _J	-40 ~ 125	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C

ELECTRICAL CHARACTERISTICS PER LINE (@ 25°C Unless Otherwise Specified)

PART NUMBER	DEVICE MARKING	V _{RWM}	V _B	I _T	V _C	V _C		I _R	C _T
		(V) (max.)	(V) (min.)	(mA)	@1A (max.)	(max.)	(@A)	(µA) (max.)	(pF) (max.)
SD03C	2A	3.3	4	1	7.5	16	25	40	200
SD05C	2B	5	6	1	9.8	17	24	5	150
SD08C	2C	8	8.5	1	13.4	20	18	1	100
SD12C	2D	12	13.3	1	20	30	11	1	50
SD15C	2J	15	16.7	1	25	36	9	1	45
SD18C	2K	18	19.5	1	30	40	8	1	42
SD24C	2H	24	26.7	1	45	50	5	1	40
SD30C	2L	30	31.8	1	52	56	4.5	1	32
SD33C	2M	33	34.6	1	58	60	4	1	28
SD36C	2N	36	40	1	65	75	3	1	25
SD48C	2P	48	49.5	1	75	85	2	1	20

SD03C thru SD48C

TYPIC CHARACTERISTICS

Figure 1. Power Detating

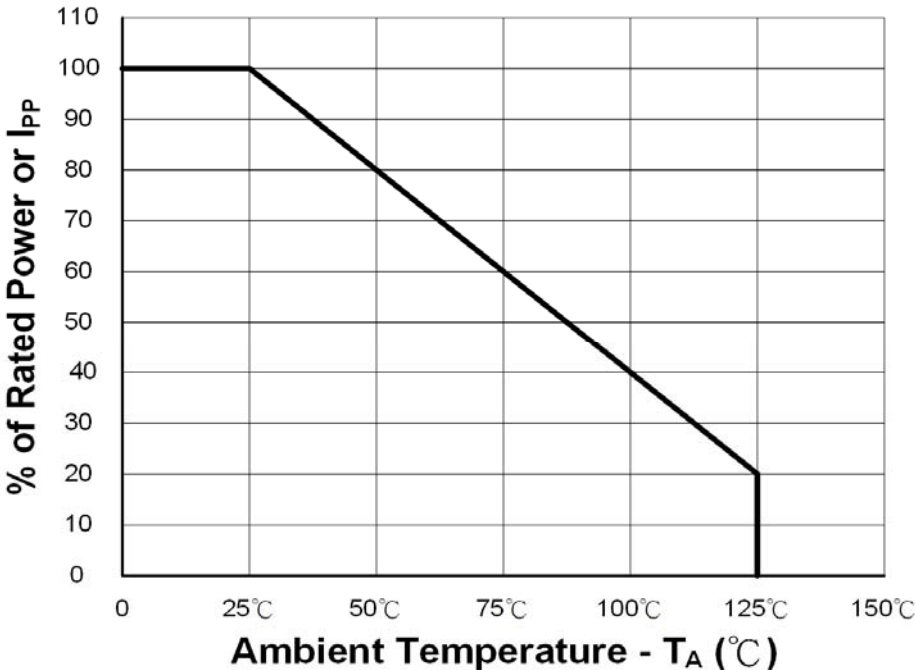
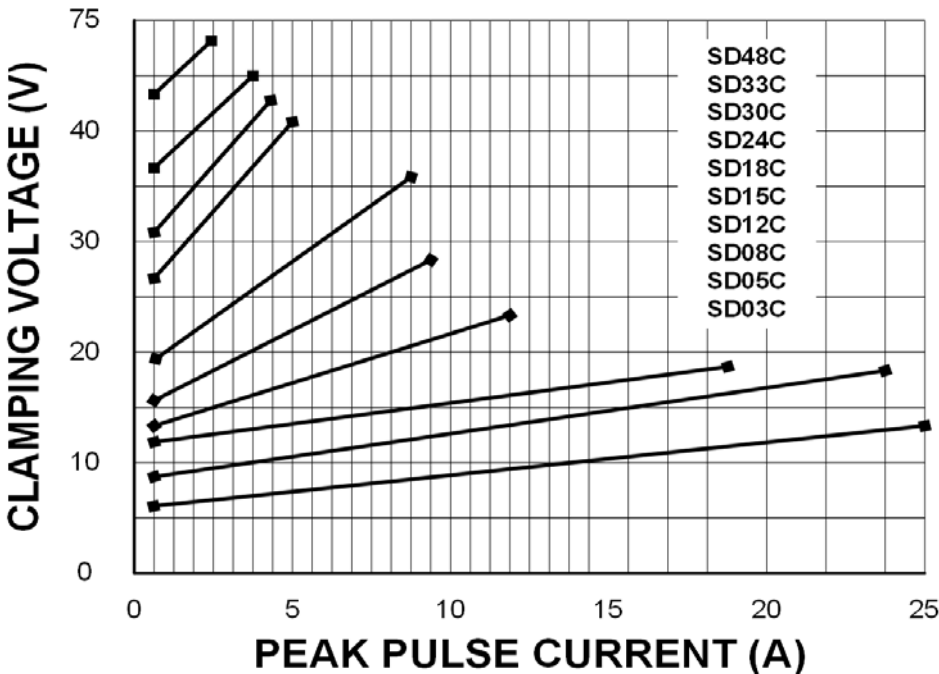


Figure 2. Clamping Voltage vs. Peak



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TYPIC CHARACTERISTICS

Figure 3. TLP Characterizations (Transmission Line Pulse) -- Positive

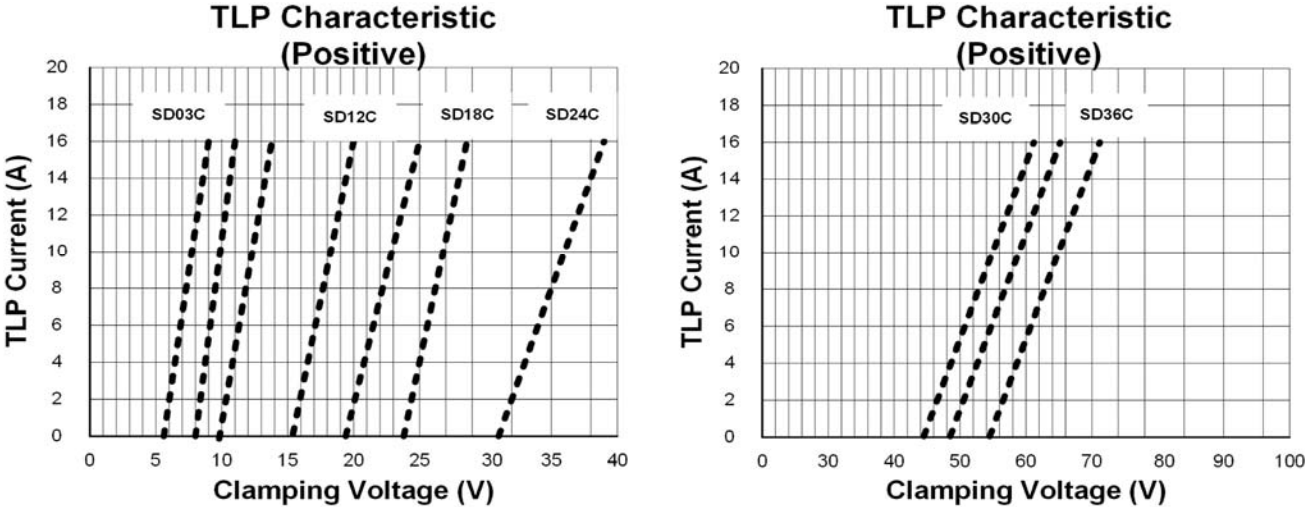
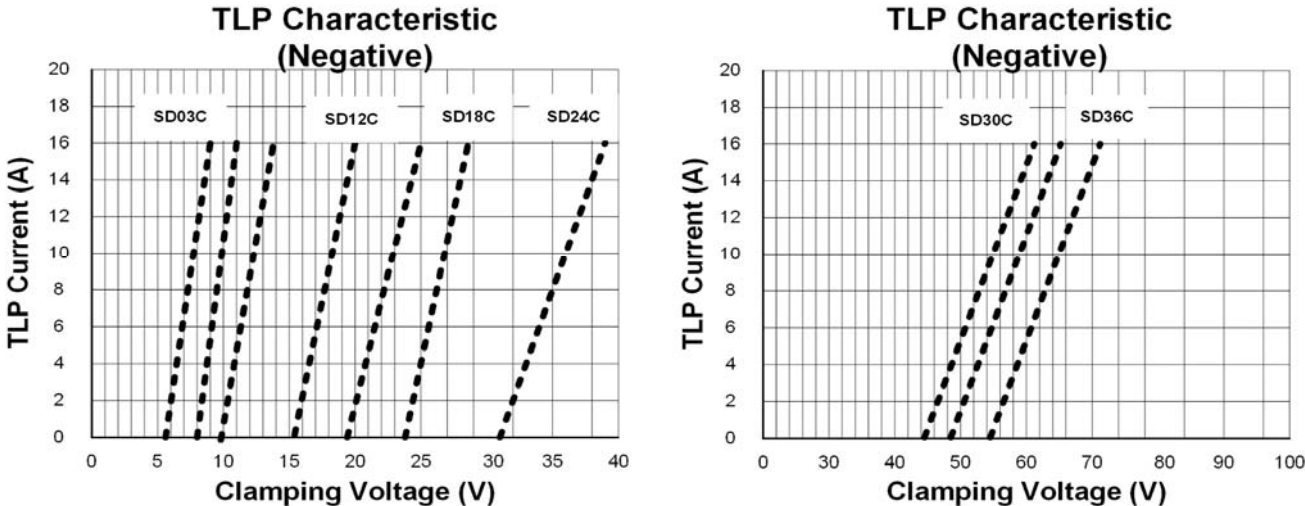
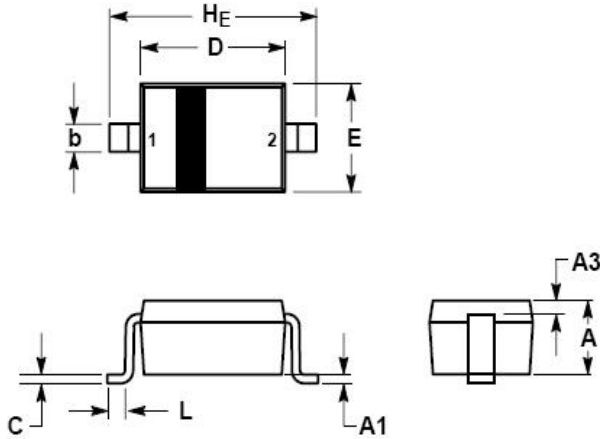


Figure 4. TLP Characterizations (Transmission Line Pulse) -- Negative



SD03C thru SD48C

SOD-323 PACKAGE OUTLINE & DIMENSIONS



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.031	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3	0.15 REF			0.006 REF		
b	0.25	0.32	0.4	0.010	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.60	1.70	1.80	0.062	0.066	0.070
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
H_E	2.30	2.50	2.70	0.090	0.098	0.105

* SOLDERING FOOTPRINT

